

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-36 (Canceled)

Claim 37 (New): A device for applying at least one clip to annular tissue of a heart valve, the device comprising:

a shaft having a proximal end and a distal end;

at least one clip housed within a portion of the shaft and coupled to a tether, wherein the at least one clip is capable of penetrating tissue, and wherein at least a portion of the at least one clip is deformable; and

at least one actuator at or near the proximal end of the shaft for causing the device to advance the at least one clip from the shaft.

Claim 38 (New): The device of claim 37, wherein the device further comprises a clip crimping member.

Claim 39 (New): The device of claim 37, wherein the device further comprises a plurality of clips.

Claim 40 (New): The device of claim 39, wherein each of the plurality of clips is coupled to the tether.

Claim 41 (New): The device of claim 37, wherein the at least one clip is T-shaped.

Claim 42 (New): The device of claim 40, wherein each of the plurality of clips includes at least one eyelet, and the tether passes through the at least one eyelet of each clip.

Claim 43 (New): The device of claim 40, wherein each of the plurality of clips includes two eyelets, and the tether has parallel segments passing through both eyelets of each clip.

Claim 44 (New): A system for applying at least one clip to annular tissue of a heart valve, comprising:

the device of claim 37; and

a stabilization device to capture and immobilize the annular tissue relative to the remainder of the heart.

Claim 45 (New): A system for applying at least one clip to annular tissue of a heart valve, comprising:

the device of claim 37; and

a visualization device capable of providing direct visualization to the annular tissue.

Claim 46 (New): The system of claim 45 wherein the visualization device comprises an ultrasonic imaging transducer.

Claim 47 (New): The system of claim 45 wherein the visualization device comprises an optical viewing element disposed within a transparent element.

Claim 48 (New): The system of claim 45 wherein the transparent element comprises a transparent balloon inflatable with a transparent inflation medium.

Claim 49 (New): A method of applying a plurality of clips to annular tissue of a heart valve comprising:

sequentially delivering at least two clips to the annular tissue from a clip applicator, wherein each of the at least two clips is coupled to a tether, and wherein each of the at least two clips is capable of penetrating tissue;

cinching the tether so that the distance between the at least two clips is shortened; and
cutting the tether after it has been cinched.

Claim 50 (New): The method of claim 49 wherein the method is performed minimally invasively.

Claim 51 (New): The method of claim 49 performed during a beating heart procedure.

Claim 52 (New): The method of claim 49 performed during an open surgical procedure.

Claim 53 (New): The method of claim 49 performed during an intravascular procedure.

Claim 54 (New): The method of claim 49 further comprising the step of visualizing the annular tissue.

Claim 55 (New): The method of claim 54 wherein the heart valve has regurgitant flow and the step of visualizing the annular tissue comprises the step of visualizing the regurgitant flow during the cinching step and selecting an amount of cinching based on a reduction in the regurgitant flow.

Claim 56 (New): The method of claim 49 wherein at least one of the at least two clips is T-shaped.

Claim 57 (New): A method of applying a plurality of clips to annular tissue of a heart valve to reduce regurgitation comprising:

sequentially delivering at least two clips to the annular tissue from a clip applicator, wherein each of the at least two clips is capable of penetrating tissue, and wherein each of the at least two clips is deformable so that the upon clip deformation, the clips tighten and reduce a length of the annular tissue and thereby reduce regurgitation.

Claim 58 (New): The method of claim 57 wherein each of the at least two clips is coupled to a tether and further comprising the step of cinching the tether so that the distance between the at least two clips is shortened.